REMARKS

The Abstract has been revised to meet the objection thereto. The title has been amended to one similar to that suggested by the examiner. The specification has been amended as suggested. A replacement drawing sheet is submitted in which Fig 4 is designated as being prior art.

The claims have been amended to address the objections thereto and claims to computer program products canceled thereby rendering their rejection under 35 USC 101 moot.

So far as the rejection of claims 1 and 10 - 12 under 35 USC 102(b) over Federspiel US Patent 5170935 is concerned, as MPEP 2131, quoting *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), points out

> "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."

This is not the case here.

Independent claims 1 and 10 recite that *values* of *temperature measured at corresponding values* of *relative humidity are converted to values* of *perceived temperature* **at a *constant value* of *relative humidity.***

However, the comfort index of *Federspiel et al.* is substantially different to the Perceived Temperature of the claimed invention (see, for example, claim 6 at col. 18, lines 12-16 of *Federspiel et al.).* Contrary to *Federspiel et al.,* Perceived Temperature in the claimed invention is not based on a whole-body thermal sensation, which at steady-state conditions is a function of air temperature, humidity, air velocity, clothing insulation, bodily heat production rate and mean

radiant temperature (see *Federspiel et al.* at col 1, lines 30-35).

Federspiel et al. (U.S. Patent No. 5,170,935) describes the use of a comfort index (V) as part of a control mechanism for "Adaptable Control of HVAC Systems" and uses inputs from sensors which include: temperature, humidity and air velocity. Fig. 2 shows a single state lumped parameter model of the heat balance between a clothed human being and the environment, which is used to derive the comfort index as described in *Federspiel et al.* The model is complex and represents parameters such as clothing, respiratory system, heat produced within the human body, evaporative heat loss from the lungs, convective heat loss from the lungs, heat loss due to sweating, heat loss due to diffusion of water vapor through the skin, heat loss through the clothing, convective heat loss from the clothing outer surface and radiative heat loss from the clothing outer surface (see col. 6, lines 32-51).

The comfort index (V) of *Federspiel et al.* is derived using a methodology similar to the methodology used to derive the Predicted Mean Vote, which is an example of a comfort index (see col. 3, lines 5-7 and col. 4, lines 40-44).

The Office Action alleges that *Federspiel et al.* discloses "convert values of temperature measured at corresponding values of relative humidity to values of perceived temperature (V, comfort index) at a constant reference value of relative humidity" in figure 5, step 20, Col. 2, lines 12-15, and Col. 6, lines 52-62. In particular, the Office Action alleges that *Federspiel et al.,* at Col. 7, line 64 - Col. 8, line 18 and Col. 12, line 24 recites *use* of a *constant reference value of relative humidity to calculate perceived temperature.*

Applicant has studied the passages cited in *Federspiel et al.* and cannot identify any disclosure of *converting values* of *temperature measured at corresponding values* of *relative humidity to values* of *perceived temperature at* a *constant reference value* of *relative humidity.* For example, the passage at Col. 7, line 64 - Col. 8, line 18 of *Federspiel et al.*

recites constant values of vapour pressure and temperature of air expired by a human, however, there is no mention of a constant reference value of relative humidity, let alone conversion to a perceived temperature at such a reference value of relative humidity.

It is therefore submitted that the invention as claimed in claims 1, 10 and 12 meets the requirements of 35 USC 102(b) with respect to *Federspiel et al.*

So far as 35 USC 103 is concerned, the Supreme Court has pointed out that:

> [R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR International Co. v. Teleflex, Inc.* 550 U.S. 398 82 USPQ2d 1385 (2007) .

The MPEP points out in paragraph 2143.02

> The prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)

As noted above, Independent claims 1 and 10 recite that *values* of *temperature measured at corresponding values* of *relative humidity are converted to values* of *perceived temperature* **at a *constant value* of *relative humidity.*** Independent claims 38 and 40 similarly recite that *values* of *perceived temperature are determined* **at a *constant reference value* of *relative humidity*** as a *function* of *corresponding wind chill-compensated values* of *temperature measured at corresponding values* of *relative humidity* ...

As defined above and in the independent claims, corresponding or associated values of temperature and relative humidity are measured (using sensors) and these measured values are subsequently converted or used to determine values of perceived temperature, at a constant value of relative humidity. That is, the conversion occurs at a constant value of relative humidity, which is entirely different to the values of relative humidity that are measured with corresponding temperatures by sensors. In the claimed invention, conversion of measured values to perceived values is what occurs at a constant value of relative humidity.

The defects of *Federspiel et al.* Have been discussed above.

The Office Action further alleges that *Timmons* discloses *"the processing unit (41) further calculates for each temperature increment* a *ventilation rate (VH) needed to control the moisture level of the interior air* so as *to produce the air relative humidity preselected by input* 64". The air relative humidity preselected by input 64 is considered by the Examiner to be a constant reference value of relative humidity. While this may be the case, *Timmons* calculates a ventilation rate (VH) needed to control the moisture level of the interior air with the goal of producing a preselected value of relative humidity.

This is substantially different to the claimed invention, in which *values of temperature measured at corresponding values of relative humidity are converted to values of perceived temperature at* a *constant reference value of relative humidity.*

Furthermore, Applicant submits that *Timmons* fails to disclose the feature of *converting values of temperature measured at corresponding values of relative humidity to values of perceived temperature at* a *constant reference value of relative humidity.* In particular, temperature and humidity are controlled separately in *Timmons* (see *Timmons,* Col. 15, lines 9-10).

Barnwell also fails to disclose the claimed invention. Moreover, Applicant notes that the date of the *Barnwell* Report is "2004". The claimed invention has a priority date of March 1, 2004 and an International filing date of February 25, 2005. It is therefore not clear that Barnwell is a citable reference under as prior art under any of the provisions of 35 USC 102 and if the examiner believes that this reference is properly citable, further details of its publication are requested.

For at least the foregoing reasons, Applicant submits that the claimed invention would not have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the controller of *Timmons* to include the teachings of *Federspiel et al.* and *Barnwell.* Accordingly, the claimed invention is patentable over a combination of *Timmons, Federspiel et al.,* and *Barnwell.*

In view of the foregoing, it is submitted that this application is in order for allowance and an early action to this end is respectfully solicited.

Respectfully submitted,

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